

Amendments to the Specification

Please replace the paragraph on page 6, beginning with **Fig. 8**, with the following paragraphs.

~~Fig. 8 is an illustration of DMA alignments between data segments for the present invention.~~

Fig. 8A is an illustration of DMA alignments between data segments according to a first method for the present invention.

Fig. 8B is an illustration of DMA alignments between data segments according to a second method for the present invention.

Please replace the paragraph bridging pages 12 and 13 with the following paragraph.

Additional benefits can be obtained by aligning the segments with the DMA FIFOs in the printer ASIC so that DMA transfers for all data streams can be completed at one time, lessening the time requirements by reducing the interrupt handler overhead. Referring now to Figures 8A and 8B ~~Figure 8~~, the advantages of coordinating DMA interrupts, one without segment alignment and one with segment alignment. In Method 1, illustrated in Figure 8A, DMA interrupts occur at each segment boundary in each color. So, there are nine DMA interrupts: one at the start of cyan 821, 922 and 823, one at the start of yellow, one between segments of 811 and 812 cyan, two between segments 831, 832 and 833 of magenta, two between segments of yellow (one interrupt at the end of segments 841, 831 and 861 and one interrupt at the end of segments 842, 852 and 862), one at the end of cyan, and one at the end of magenta. In Method 2, illustrated in Figure 8B, DMA interrupts occur at the start and end of colors and at coordinated points in the data streams. Therefore, there are six interrupts in Method 2: one at the start of cyan, one at the start of yellow, two between color

segments, one at the end of cyan, and one at the end of magenta. The two interrupts between color segments handle the DMA interrupts for all three colors at the same time. This gives a maximum of six DMA interrupts per swath. By eliminating the number of DMA interrupts, the printer firmware spends less time managing the print DMA system and can use that time for other processing, such as data decompression. Reducing the number of interrupts also eases the burden on the interrupt controller and allows other interrupts in the system more opportunity to be serviced.